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09/881,547	06/14/2001	Yu-Li Chang	S01.12-0712	6844

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EXAMINER

KLIMOWICZ, WILLIAM JOSEPH

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 03/26/2004

16

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/881,547

Applicant(s)

CHANG ET AL

Examiner

William J. Klimowicz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17, 19, 20 and 23-29 is/are pending in the application.
- 4a) Of the above claim(s) 2-5, 8, 10, 12, 13, 15 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 9, 11, 14, 17, 19, 20 and 23-29 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***DETAILED ACTION***

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on February 13, 2004 (Amendment D, Paper No. 15) has been entered.

***Claim Status***

Claims 1-17, 19, 20 and 23-29 are currently pending.

Claims 18, 21 and 22 have been cancelled by the Applicants.

Claims 1, 6, 7, 9, 11, 14, 17, 19, 20 and 23-29 have been examined on the merits, *infra*.

Additionally, it is noted that claims 15 and 16 are in fact drawn to non-elected embodiments (i.e., claim 15 is drawn to a plurality of streamline flow passages which are angled to direct the flow field inwardly toward an inner diameter of the disc, which is non-elected Species II, and claim 16 is drawn to a plurality of streamline flow passages which are angled to direct the flow field outwardly toward an outer diameter of the disc, which is non-elected Species III). See the restriction requirement of Paper No. 7, mailed March 20, 2003 and Applicants' election in Paper No. 8, filed April 28, 2003.

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Thus, claims 2-5, 8, 10, 12, 13, 15 and 16 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a non-elected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 8, filed April 28, 2003.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 9, 14, 17, 19, 20 and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Tadepalli (US 6,462,901 B1).

As per claim 1, Tadepalli (US 6,462,901 B1) discloses an assembly comprising: at least one disc (134); a spindle assembly (133) rotationally supporting the at least one disc (134) to form a flow field (e.g., windage from spinning disc(s)) along a surface of the at least one disc (134) via rotation of the at least one disc (134); a head assembly (123) positionable proximate to the surface of the at least one disc (134); and a flow controller (e.g., 200) supported in the flow field along the disc surface and the flow controller (200) including a flow gate having a leading edge (e.g., edge at right side of opening (288) as seen in FIG. 1) having a plurality of rows of inlets (e.g., channels of (223) exposed at right side of (288)) and a trailing edge (e.g., edge at left

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side of opening (288) as seen in FIG. 1) including a plurality of rows of outlets (e.g., channels of (223) exposed at left side of (288)) and the flow gate including a plurality of rows (the channels (223) themselves) of streamline flow passages between the plurality of rows of inlets at the leading edge and the plurality of rows of outlets at the trailing edge - e.g., see, *inter alia*, FIG. 1.

As per claim 9, wherein the flow gate includes a block structure (200) (which is a solid piece of substantial material) including the leading edge (e.g., edge at right side of opening (288) as seen in FIG. 1) and the trailing edge (e.g., edge at left side of opening (288) as seen in FIG. 1) having the plurality of rows of inlets (end of channels (223) at (288) on right side) formed along the leading edge of the block (200) and the plurality of rows of outlets (end of channels (223) at (288) on left side) formed along the trailing edge of the block and the plurality of rows of streamline flow passages (channels (223)) therebetween.

Additionally, as per claim 14, the flow control assembly (200) includes the plurality of streamline flow passages are curved between the inlets (e.g., channels of (223) exposed at left side of (288)) and the outlets inlets (e.g., channels of (223) exposed at right side of (288)) of the flow passages to redirect the flow field -FIG. 6.

Additionally, as per claim 17, the assembly further comprises the at least one disc (134) rotatable about a spindle axis (axis of (133)) and forming the flow field along a surface of the at least one disc (134) and a head assembly (123) supported relative to the surface of the at least one disc (134); and a flow device (e.g., 200) in the flow field for reducing turbulent flow along the surface of the at least one disc (134) including a plurality of streamline flow passages (e.g., channels (223) that extend between inlet and outlet sides adjacent first opening (288)) having a curved or arched contour - see FIG. 6.

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As per claim 19, wherein the flow device (220) is supported upstream of flow of the flow field to the head assembly (123).

As per claim 20, wherein the flow device (200) is supported downstream of flow of the flow field from the head assembly (123). That is, the flow device (200) can be construed as being "upstream" since the flow of air is recirculated back to the head assembly (123), such that it makes no difference in which direction the disc (134) and the flow device (200) can be construed as either being "upstream" or "downstream," as per claims 18 and 19 since the air flows in a circular manner.

As per claim 29, wherein the plurality of rows of streamline flow passages (223) include a constant cross-sectional area or dimension (e.g., see FIGS. 2 and 8) between the plurality of inlets and the plurality of outlets.

Claims 1, 9 and 23-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshizawa et al. (JP 2-50379 A).

As per claim 1, Yoshizawa et al. (JP 2-50379 A) discloses an assembly (FIG. 1) comprising: at least one disc (1); a spindle assembly (2) rotationally supporting the at least one disc (1) to form a flow field along a surface of the at least one disc (1) via rotation of the at least one disc (1); a head assembly (4) positionable proximate to the surface of the at least one disc; and a flow controller (7) supported in the flow field along the disc surface and the flow controller (7) (comprising a flow device (13)) including a flow gate having a leading edge (edge at which airflow enters vent (12) - see FIG. 2) having a plurality of rows (air inflow end of radial rows (12)) of inlets (three inlets designated at dashed lines (12) in FIG. 2) and a trailing edge (edge at

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which airflow exits vent (12) - see FIG. 2) including a plurality of rows of outlets (three at trailing edge which correspond to the dashed lines (12) from leading edge to trailing edge as seen in FIG. 2) and including a plurality of streamline flow passages (12) between the plurality of rows of inlets at the leading edge and the plurality of rows of outlets at the trailing edge.

As per claim 9, wherein the flow gate (7) includes a block structure (7) including the leading edge and the trailing edge having the plurality of rows of inlets formed along the leading edge of the block (7) and the plurality of rows of outlets formed along the trailing edge of the block and the plurality of streamline flow passages (12) therebetween - as is readily seen in FIG. 2.

Additionally, with regard to claim 23, Yoshizawa et al. (JP 2-50379 A) discloses, in combination; a spindle assembly (2) including a plurality of stacked discs (1) rotatable to induce a flow field along a surface of each of the plurality of stacked discs (1) by rotation of the plurality of stacked discs (1) and a plurality of flow devices (13) (i.e., each arm of the flow gate is construed as an individual flow device) supported relative to the stacked discs (1).

As per claim 24, including a plurality of "opened channels" (e.g., the "opened ends of the inlets (12) and outlets (12) - they are opened and not sealed off) between opposed side edges (the side edges are the edges perpendicular to the airflow, i.e., at the air inflow and outflow opposing sides) and the plurality of streamline flow passages (12).

As per claim 25, the head assembly (4) supporting heads (3) relative to the surfaces of the plurality of discs (1) and the plurality of flow devices (13) include a flow gate (base of (13)) supported "upstream" of flow of the flow field to the head assembly. That is, as seen in FIG 3, flow device (13) can be construed as being "upstream" since the flow of air is recirculated back

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to the head assembly, such that it makes no difference in which direction the disc (1) spins as seen in FIG. 3, the flow device can be construed as either being "upstream" or downstream," as per claim 26 since the air flows in a circular manner.

As per claim 27, wherein the plurality of flow passages (12) include a plurality of radially spaced circumferential flow passages (i.e., the passages (12) are formed along (13) in the radial direction of the disc (1).

As per claim 28, wherein the streamline flow passages (12) are angled ("outlined" or contoured) to redirect the flow field - see FIG. 2.

As per claim 29, the plurality of streamline flow passages (12) include a constant cross-sectional area or dimension between the plurality of inlets and the plurality of outlets - see FIG. 2.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshizawa et al. (JP 2-50379 A).

See the description of Yoshizawa et al. (JP 2-50379 A), *supra*.



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As per claim 11, Yoshizawa et al. (JP 2-50379 A) discloses a width of the flow controller (7) as extending between inner and outer positions of the head assembly to condition flow to the head assembly (e.g., see *inter alia*, FIGS. 1, 3 and 4).

As per claim 11, however, Yoshizawa et al. (JP 2-50379 A) does not expressly show wherein the head assembly (4) is pivotally supported to move between an inner position and an outer position.

Official notice is taken that pivotally mounted head assemblies are notoriously old and well known in the art.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the disc drive of Yoshizawa et al. (JP 2-50379 A) with a pivotally mounted head assembly, as is common in the art.

The rationale is as follows: It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the disc drive of Yoshizawa et al. (JP 2-50379 A) with a pivotally mounted head assembly, as is common in the art, in lieu of a linear actuator, in order to reduce the size of the disc drive, by allowing the actuator assembly to be moved closer to the disc via pivotal attachment of an actuator bearing, such advantages of pivotal mounting being well known, established and appreciated in the disc drive art.

***Allowable Subject Matter***

Claims 6 and 7 would be allowable if amended to include all limitations from their preceding base claims, including any intervening claims.

*Response to Arguments*

Applicants' arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection, as it pertains to the claims rejected under Tadepalli (US 6,462,901 B1), *supra*.

Applicants' arguments filed as it pertains to claims rejected under Yoshizawa et al. (JP 2-50379 A) have been fully considered but they are not persuasive.

The Applicants state:

Claims 1 and 9 have been amended to recite a flow controller including a flow gate and the flow-gate including a plurality of rows of inlets at the leading edge and a plurality of row of outlets at the trailing edge and a plurality of rows of streamline flow passages therebetween which is not taught nor suggested by Yoshizawa and which provides flow control advantages as described in Applicants' specification.

See page 8 of Applicants' response (Paper No. 15, Amendment D) filed February 13, 2004. The Applicants further go on to recite:

Claims 23-29 have been amended to recite *inter alia* a plurality of flow devices supported in the flow field of each of a plurality of stacked discs of a spindle assembly and each of the flow devices including a plurality of streamline flow passages between a plurality of inlets at the leading edge and a plurality of outlets at the trailing edge which is not taught nor suggested by Yoshizawa and which provides flow control advantages as described in Applicants' specification.

*Id.* The Examiner respectfully disagrees with the Applicants' characterization of Yoshizawa et al. (JP 2-50379 A). More concretely, as set forth in the rejection, *supra*, Yoshizawa et al. (JP 2-50379 A) a flow controller (7) supported in the flow field along the disc surface and the flow controller (7) (comprising a flow device (13)) including a flow gate having a leading edge (edge

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at which airflow enters vent (12) - see FIG. 2) having a plurality of rows (air inflow end of radial rows (12)) of inlets (three inlets designated at dashed lines (12) in FIG. 2) and a trailing edge (edge at which airflow exits vent (12) - see FIG. 2) including a plurality of rows of outlets (three at trailing edge which correspond to the dashed lines (12) from leading edge to trailing edge as seen in FIG. 2) and including a plurality of streamline flow passages (12) between the plurality of rows of inlets at the leading edge and the plurality of rows of outlets at the trailing edge.

Moreover, with regard to claim 23, Yoshizawa et al. (JP 2-50379 A) also discloses a plurality of flow devices (13) (i.e., each arm of the flow gate is construed as an individual flow device) supported relative to the stacked discs (1).

Additionally, it is noted that the Applicants have not seasonably challenged the Examiner's position regarding the use of Official notice (see claim 11, pertaining to pivotal head assemblies) as taken in the previous Office action (Paper No. 11) by requesting "a demand for evidence."

As has been established in patent practice, as articulated in the MPEP § 2144.03:

If applicant does not seasonably traverse the well known statement during examination, then the object of the well known statement is taken to be admitted prior art. *In re Chevenard*, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution. Thus, applicant is charged with rebutting the well known statement in the next reply after the Office action in which the well known statement was made. This is necessary because the examiner must be given the opportunity to provide evidence in the next Office action or explain why no evidence is required. If the examiner adds a reference to the rejection in the next action after applicant's rebuttal, the newly cited reference, if it is added merely as evidence of the prior well known statement, does not result in a new issue and thus the action can potentially be made final. If no amendments are made to the claims, the examiner must not rely on any other teachings in the reference if the rejection is made final.

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Since the Applicants did not seasonably traverse the well known statement during examination, the object of the well known statement has been taken to be admitted prior art.

*Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William J. Klimowicz whose telephone number is (703) 305-3452. The examiner can normally be reached on Monday-Thursday (6:30AM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Will*  
William J. Klimowicz  
Primary Examiner  
Art Unit 2652

WJK